

TECHNICAL DATA SHEET

Tinsdale Agar Base

Principle

Tinsdale agar base is formulated by Moore and Parsons (1958), used for isolation and cultivation of *Corynebacterium species*. The tinsdale agar base is composed of peptic digest of animal tissue, sodium chloride, L-cystine, sodium thiosulphate and agar. The peptic digest of animal tissue is the source of nitrogen, carbon and other essential growth supplements. Sodium chloride maintains the osmotic balance of the medium. L-cystine and sodium thiosulphate forms the hydrogen sulfide indicator. Horse serum stimulate good growth of *Corynebacterium*. The selectivity is enhanced by the presence of inhibitor and differential by means of ability of organism to reduce potassium tellurite. Potassium tellurite also acts as a selective agent, inhibits most gram-positive and gram-negative bacteria except *Corynebacterium species*. *C. diphtheriae* reduces potassium tellurite to tellurium and thereby produce gray-black coloured colonies.

Use: For selective isolation and differentiation of *Corynebacterium diphtheriae*

Contents*

Ingredients	Gram/Litre
Peptic digest of animal tissue	20.00
Sodium chloride	5.00
L-cystine	0.24
Sodium thiosulphate	0.43
Agar	15.00
pH at 25°C	7.4 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: Dissolve 40.50 grams in 1000 ml distilled water. Boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 min, cool it to 42-45°C and add heat sensitive compounds. Aseptically add sterile horse serum (100 ml) 1 ml Potassium Tellurite, mix well and pour into sterile Petri plates.

Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples etc.

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Beige colored free flowing, homogeneous powder
Reaction of 4.05% solution	7.4 ±0.2 at 25 °C
pH	7.20- 7.60
Gelling	Firm comparable with 1.5% agar gel
Color and clarity of ready medium	Basal medium: Light amber color clear to slightly opalescent gel.
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response

Cultural characteristics observed along with sterile horse serum (100 ml) and 1 ml Potassium Tellurite after incubation at 35-37°C for 48- 72 hours.

Organism	ATCC	Inoculum CFU	Growth	Recovery	Colony color
<i>Corynebacterium diphtheriae</i>	11913	50-100	Luxurious	≥ 70%	Black with halo
<i>Escherichia coli</i>	8793	50-100	Inhibited	---	---

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

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Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.
3. Moore, M. S., and Parsons E. I.. (1958). *A study of a modified Tinsdale's medium for the primary isolation of Corynebacterium diphtheriae*. J. Infect. Dis. 102:88.
4. Tinsdale, G. F. W. (1947). *A new medium for the isolation and identification of C. diphtheriae based on the production of hydrogen sulphide*. J. Pathol. Bacteriol. 59:461-466

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